Scan Revision
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POWER AMPLIFIERS
P1150/P1250/ P2150/P2250
SERVICE MANUAL

• P1250

• P2250

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SINCE 1887 YAMAHA
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN
1.85K-845 Printed in Japan '85.4

IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

■ SPECIFICATIONS

P1150

Output Power Specs meet FTC preconditioning criteria	OUTPUT SPECIFICATIONS			
	8 ohms		4 ohms	
	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz
Continuous sine wave output power at less than 0.05% THD	100 W	105 W	150 W	165 W
Total Harmonic Distortion (THD)	≤0.007% @ 55 W	≤0.003% @ 55 W	≤0.01% @ 75 W	≤0.005% @ 75 W
Intermodulation Distortion (IHD) 60 Hz & 7 kHz 4 : 1	≤0.005% @ 55 W		≤0.01% @ 75 W	
Power Bandwidth (@ THD ≤0.1%)	10 Hz to 100 kHz @ 55 W		10 Hz to 100 kHz @ 75 W	
Frequency Response (1 watt output)	+0, –1 dB, 10 Hz to 50 kHz			
Damping Factor	≥110 @ 1 kHz		≥55 @ 1 kHz	
Slew Rate	±50 volts/microsecond full swing			
Signal-to-Noise (Input shorted)	≥110 dB, –6 dB/octave LPF @ 12.47 kHz ≥115 dB, IHF-A network			
Residual Noise (Input ATT @ minimum)	≤–80 dBm, –6 dB/octave LPF @ 12.47 kHz ≤–90 dBm, IHF-A network			
Input Impedance	≥15 kohms, balanced or unbalanced (ATT @ max)			
Sensitivity	+4 dBm (1.23 V rms) for nominal output (4 ohm load)			
Voltage Gain	26.0 dB			
Indicators	Signal: Green LED turns on when signal present at output is at or above 2 volts RMS (20 Hz – 20 kHz). Clipping: Red LED turns on when THD ≥ 1%. Protection: Red LED turns on when protection or muting is on. Pilot: Red LED turns on when power is on.			
Protection Circuits	Muting: Output muted 6 seconds (±2 sec.) after power is on. DC sense: Output shut off if ±2V DC sensed at output. Thermal: Output shut off if heat sink temp. ≥ 85 degrees C. Current Limiter: Output reduced if load ≤ 2 ohms.			
Fan Circuit	Fan is normally at low speed; when heat sink reaches 60 degrees Centigrade, fan goes to high speed; then resets to low at 45°C.			
Controls	Front: 32 step Input Attenuator; 0 to –20 dB in 1 dB steps, –20 to –30 dB in 2 dB steps, then –33, –37, –42, –50, –60 dB, and infinite attenuation. Push On/Push Off POWER switch.			
Power Requirements	105 – 130 volts, 50 or 60 Hz, AC, 250 W (300 VA)			
Weight	28.6 lbs (13 kg)			
Dimensions	Width: 18-7/8 inches (480 mm) Height: 5-1/4 inches (132 mm) Overall Depth: 16-3/4 inches (423 mm) Depth Behind Front Panel: 15-1/8 inches (384 mm)			
Accessory	Rubber cap to discourage unauthorized or accidental changes in setting of input attenuator (included).			

P1250

Output Power Specs meet FTC preconditioning criteria	OUTPUT SPECIFICATIONS			
	8 ohms		4 ohms	
	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz
Continuous sine wave output power at less than 0.05% THD	170 W	185 W	250 W	265 W
Total Harmonic Distortion (THD)	≤0.007% @85 W	≤0.003% @85 W	≤0.01% @125 W	≤0.005% @ 125 W
Intermodulation Distortion (IHD) 60 Hz & 7 kHz 4 : 1	≤0.005% @85 W		≤0.01% @ 125 W	
Power Bandwidth (@ THD ≤0.1%)	10 Hz to 100 kHz @ 85 W		10 Hz to 100 kHz @ 125 W	
Frequency Response (1 watt output)	+0, –1 dB, 10 Hz to 50 kHz			
Damping Factor	≥110 @ 1 kHz		≥55 @ 1 kHz	
Slew Rate	±50 volts/microsecond full swing			
Signal-to-Noise (Input shorted)	≥110 dB, –6 dB/octave LPF @ 12.47 kHz ≥115 dB, IHF-A network			
Residual Noise (Input ATT @ minimum)	≤–80 dBm, –6 dB/octave LPF @ 12.47 kHz ≤–90 dBm, IHF-A network			
Input Impedance	≥15 kohms, balanced or unbalanced (ATT @ max)			
Sensitivity	+4 dBm (1.23 V rms) for nominal output (4 ohm load)			
Voltage Gain	28.3 dB			
Indicators	Signal: Green LED turns on when signal present at output is at or above 2 volts RMS (20 Hz – 20 kHz). Clipping: Red LED turns on when THD ≥1%. Protection: Red LED turns on when protection or muting is on. Pilot: Red LED turns on when power is on.			
Protection Circuits	Muting: Output muted 6 seconds (±2 sec.) after power is on. DC sense: Output shut off if ±2V DC sensed at output. Thermal: Output shut off if heat sink temp. ≥85 degrees C. Current Limiter: Output reduced if load ≤2 ohms.			
Fan Circuit	Fan is normally at low speed; when heat sink reaches 60 degrees Centigrade, fan goes to high speed; then resets to low at 45°C.			
Controls	Front: 32 step Input Attenuator; 0 to –20 dB in 1 dB steps, –20 to –30 dB in 2 dB steps, then –33, –37, –42, –50, –60 dB, and infinite attenuation. Push On/Push Off POWER switch.			
Power Requirements	105 – 130 volts, 50 or 60 Hz, AC, 400 W (450 VA)			
Weight	33 lbs (15 kg)			
Dimensions	Width: 18-7/8 inches (480 mm) Height: 5-1/4 inches (132 mm) Overall Depth: 16-3/4 inches (423 mm) Depth Behind Front Panel: 15-1/8 inches (384 mm)			
Accessory	Rubber cap to discourage unauthorized or accidental changes in setting of input attenuator (included).			

P2150

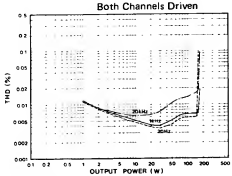
Output Power Specs meet FTC preconditioning criteria	STEREO OPERATION (Power output specified per channel, with both channels driven)				BRIDGED MONO OPERATION			
	8 ohms		4 ohms		16 ohms		8 ohms	
	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz
Continuous sine wave output power at less than 0.05% THD	100 W	105 W	150 W	165 W	220 W	250 W	300 W	330 W
Total Harmonic Distortion (THD)	≤0.007% @ 55 W	≤0.003% @ 55 W	≤0.01% @ 75 W	≤0.005% @ 75 W	≤0.007% @ 110 W	≤0.003% @ 110 W	≤0.01% @ 150 W	≤0.005% @ 150 W
Channel Separation (@ 3 dB below nominal power output, ATT @ max, input shorted)	≥70 dB	≥90 dB						
Intermodulation Distortion (IHD) 60 Hz & 7 kHz 4 : 1	≤0.005% @ 55 W		≤0.01% @ 75 W		≤0.01% @ 110 W		≤0.01% @ 150 W	
Power Bandwidth (@ THD ≤0.1%)	10 Hz to 50 kHz @ 55 W		10 Hz to 50 kHz @ 75 W		10 Hz to 50 kHz @ 110 W		10 Hz to 50 kHz @ 150 W	
Frequency Response (1 watt output)	+0, –1dB, 10Hz to 50kHz							
Damping Factor	≥110 @ 1 kHz		≥55 @ 1 kHz					
Slew Rate	± 50 volts/microsecond full swing				± 90 volts/microsecond full swing			
Signal-to-Noise (Input shorted)	≥110 dB, –6 dB/octave LPF @ 12.47 kHz ≥115 dB, IHF-A network				≥106 dB, –6 dB/octave LPF @ 12.47 kHz ≥110 dB, IHF-A network			
Residual Noise (Input ATT @ minimum)	≤–80 dBm, –6 dB/octave LPF @ 12.47 kHz ≤–90 dBm, IHF-A network							
Input Impedance	≥15 kohms, balanced or unbalanced (ATT @ max)							
Sensitivity	+4 dBm (1.23 V rms) for nominal output (4 ohm load)							
Voltage Gain	26.0 dB							
Indicators	Signal: Green LED turns on when signal present at output is at or above 2 volts RMS (20 Hz – 20 kHz) Clipping: Red LED turns on when THD ≥1% (x 2). Protection: Red LED turns on when protection or muting is on. Pilot: Red LED turns on when power is on.							
Protection Circuits	Muting: Output muted 6 seconds (± 2 sec.) after power is on. DC sense: Output shut off if ± 2V DC sensed at output. Thermal: Output shut off if heat sink temp. ≥85 degrees C. Current Limiter: Output reduced if load ≤2 ohms.							
Fan Circuit	Fan is normally at low speed; when heat sink reaches 60 degrees Centigrade, fan goes to high speed; then resets to low at 45°C.							
Controls	Front: 2 x 32 step Input Attenuators; 0 to –20 dB in 1 dB steps, –20 to –30 dB in 2 dB steps, then –33, –37, –42, –50, –60 dB, and infinite attenuation. Push On/Push Off POWER switch. Rear: MONO/STEREO MODE switch.							
Power Requirements	105 – 130 volts, 50 or 60 Hz, AC, 500 W (600 V A)							
Weight	37.4 lbs (17 kg)							
Dimensions	Width: 18-7/8 inches (480 mm) Height: 5-1/4 inches (132 mm) Overall Depth: 16-3/4 inches (423 mm) Depth Behind Front Panel: 15-1/8 inches (384 mm)							
Accessories	Rubber caps of discourage unauthorized or accidental changes in setting of input attenuators (included).							

P2250

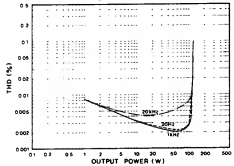
Output Power Specs meet FTC preconditioning criteria	STEREO OPERATION (Power output specified per channel, with both channels driven)				BRIDGED MONO OPERATION			
	8 ohms		4 ohms		16 ohms		8 ohms	
	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz	20Hz – 20kHz	1kHz
Continuous sine wave output power at less than 0.05% THD	170 W	185 W	250 W	265 W	340 W	370 W	500 W	530 W
Total Harmonic Distortion (THD)	≤0.007% @ 85 W	≤0.003% @ 85 W	≤0.01% @ 125 W	≤0.005% @ 125 W	≤0.007% @ 85 W	≤0.003% @ 85 W	≤0.01% @ 125 W	≤0.005% @ 125 W
Channel Separation (@ 3 dB below nominal power output, ATT @ max, input shorted)	≥70 dB	≥90 dB						
Intermodulation Distortion (IHD) 60 Hz & 7 kHz 4 : 1	≤0.005% @ 85 W		≤0.01% @ 125 W		≤0.01% @ 170 W		≤0.01% @ 250 W	
Power Bandwidth (@ THD ≤0.1%)	10 Hz to 50 kHz @ 85 W		10 Hz to 50 kHz @ 125 W		10 Hz to 50 kHz @ 170 W		10 Hz to 50 kHz @ 250 W	
Frequency Response (1 watt output)	+0, −1dB, 10Hz to 50kHz							
Damping Factor	≥110 @ 1 kHz		≥55 @ 1 kHz					
Slew Rate	±50 volts/microsecond full swing				±90 volts/microsecond full swing			
Signal-to-Noise (Input shorted)	≥110 dB, −6 dB/octave LPF @ 12.47 kHz ≥115 dB, IHF-A network				≥106 dB, −6 dB/octave LPF @ 12.47 kHz ≥110 dB, IHF-A network			
Residual Noise (Input ATT @ minimum)	≤−80 dBm, −6 dB/octave LPF @12.47 kHz ≤−90 dBm, IHF-A network							
Input Impedance	≥15 kohms, balanced or unbalanced (ATT @ max)							
Sensitivity	+4 dBm (1.23 V rms) for nominal output (4 ohm load)							
Voltage Gain	28.3 dB							
Indicators	Signal: Green LED turns on when signal present at output is at or above 2 volts RMS (20 Hz – 20 kHz). Clipping: Red LED turns on when THD ≥1% (x 2). Protection: Red LED turns on when protection or muting is on. Pilot: Red LED turns on when power is on.							
Protection Circuits	Muting: Output muted 6 seconds (± 2 sec.) after power is on. DC sense: Output shut off if ± 2V DC sensed at output. Thermal: Output shut off if heat sink temp. ≥85 degrees C. Current Limiter: Output reduced if load ≤2 ohms.							
Fan Circuit	Fan is normally at low speed; when heat sink reaches 60 degrees Centigrade, fan goes to high speed; then resets to low at 45°C.							
Controls	Front: 2 x 32 step Input Attenuators; 0 to −20 dB in 1 dB steps, −20 to −30 dB in 2 dB steps, then −33, −37, −42, −50, −60 dB, and infinite attenuation. Push On/Push Off POWER switch. Rear: MONO/STEREO MODE switch.							
Power Requirements	105 – 130 volts, 50 or 60 Hz, AC, 850 W (950 VA)							
Weight	41.8 lbs (19 kg)							
Dimensions	Width: 18-7/8 inches (480 mm) Height: 5-1/4 inches (132 mm) Overall Depth: 16-3/4 inches (423 mm) Depth Behind Front Panel: 15-1/8 inches (384 mm)							
Accessories	Rubber caps to discourage unauthorized or accidental changes in setting of input attenuators (included).							

■PERFORMANCE GRAPHS

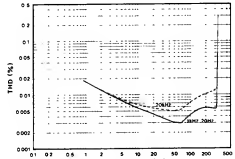
THD vs OUTPUT POWER CHARACTERISTICS
<Model: P2150>
Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven



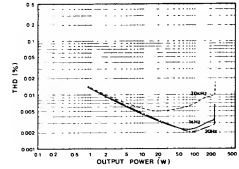
THD vs OUTPUT POWER CHARACTERISTICS
<Model: P2150>
Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven



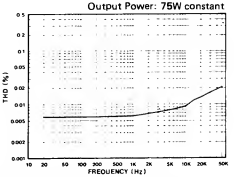
THD vs OUTPUT POWER CHARACTERISTICS
<Model: P2150>
Load Impedance: 8Ω
Mode: MONO (BTL)



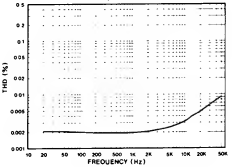
THD vs OUTPUT POWER CHARACTERISTICS
<Model: P2250>
Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven



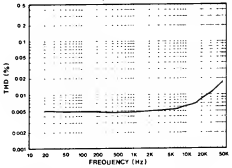
THD vs FREQUENCY CHARACTERISTICS
<Model: P2150>
Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven
Output Power: 75W constant



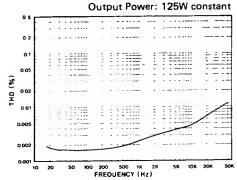
THD vs FREQUENCY CHARACTERISTICS
<Model: P2150>
Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven
Output Power: 50W constant



THD vs FREQUENCY CHARACTERISTICS
<Model: P2150>
Load Impedance: 8Ω
Mode: MONO (BTL)
Output Power: 150W constant

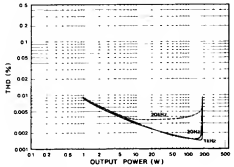


THD vs FREQUENCY CHARACTERISTICS
<Model: P2250>
Load Impedance: 4Ω
Mode: STEREO
Both Channels Driven
Output Power: 125W constant



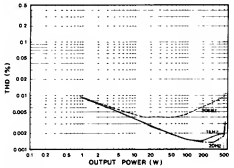
THD vs OUTPUT POWER CHARACTERISTICS

<Model: P2250>
Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven



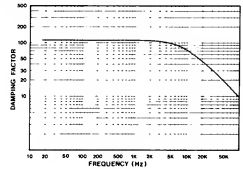
THD vs OUTPUT POWER CHARACTERISTICS

<Model: P2250>
Load Impedance: 8Ω
Mode: MONO (BTL)



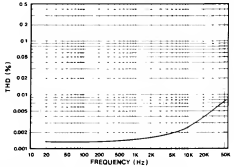
DAMPING FACTOR CHARACTERISTICS

<Model: P2250>
Load Impedance: 8Ω



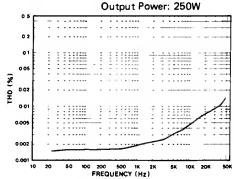
THD vs FREQUENCY CHARACTERISTICS

<Model: P2250>
Load Impedance: 8Ω
Mode: STEREO
Both Channels Driven
Output Power: 85W constant



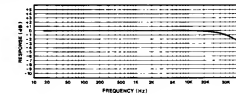
THD vs FREQUENCY CHARACTERISTICS

<Model: P2250>
Load Impedance: 8Ω
MODE: MONO (BTL)
Output Power: 250W



FREQUENCY RESPONSE CHARACTERISTICS

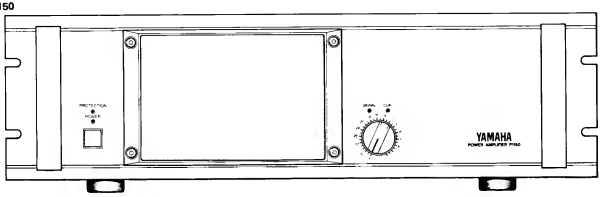
<Model: all models>
Load Impedance: 8Ω
Input Attenuators: Max



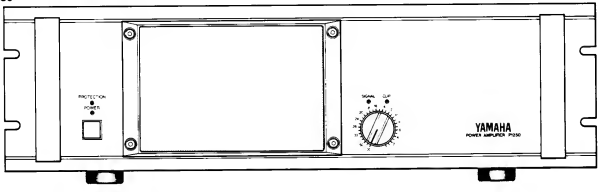
■PANEL LAYOUT

FRONT PANEL

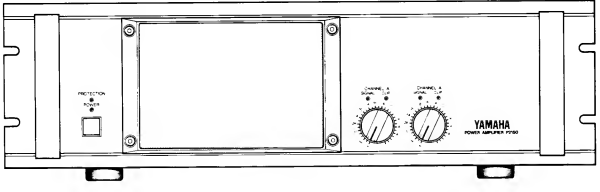
• P1150



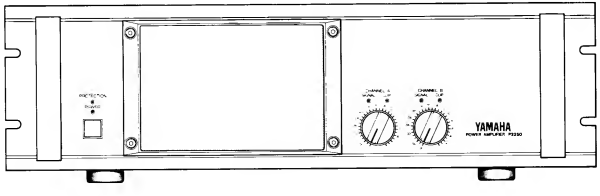
• P1250



• P2150

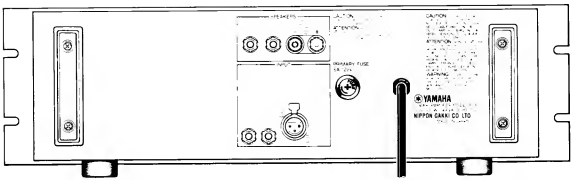


• P2250

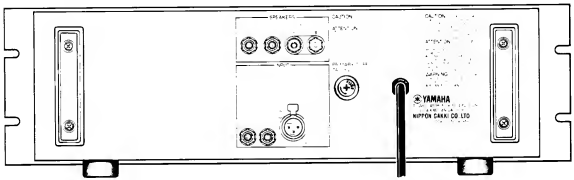


REAR PANEL (U.S. model)

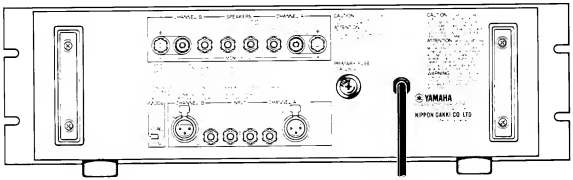
• P1150



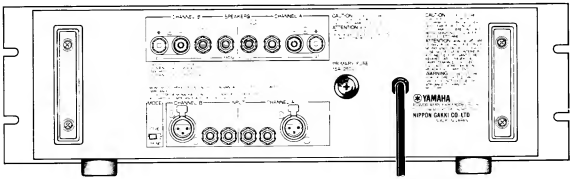
• P1250



• P2150



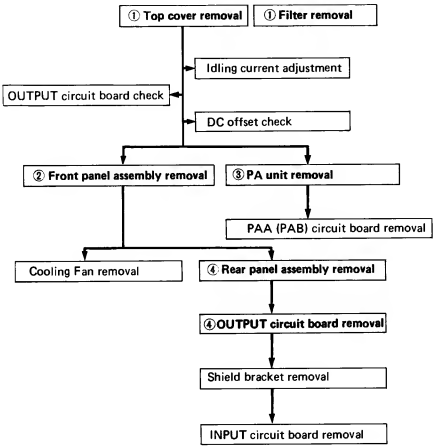
• P2250



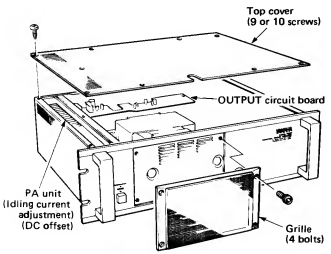
■DISASSEMBLY PROCEDURES

- Disconnect each connector as necessary for the part removal.
- Electric charge may be accumulated at the electrolytic capacitor of the power supply. Discharge it by shorting across the capacitor terminals with a resistor of 8Ω, 100W or so.

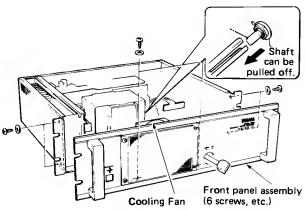
FLOW CHART



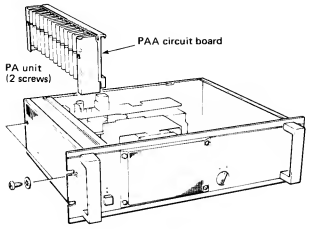
① TOP COVER REMOVAL/GRILLE REMOVAL



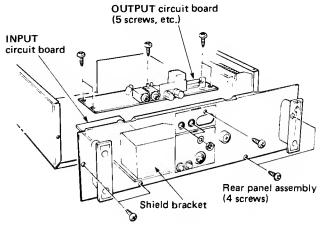
② FRONT PANEL ASSEMBLY REMOVAL



③ PA UNIT REMOVAL



④ REAR PANEL ASSEMBLY REMOVAL/
OUTPUT CIRCUIT BOARD REMOVAL



■CHECK AND ADJUSTMENT

BEFORE ADJUSTING

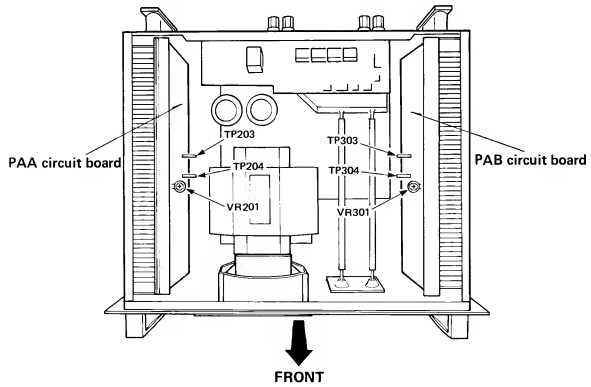
Be sure to wait for about 5 minutes after turning the power switch on, in order for the main amp's operation to become stable.

1. Idling current adjustment

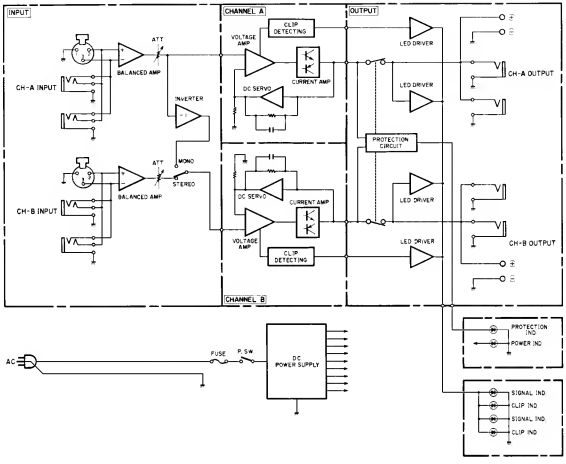
Adjust VR201 (and/or VR301) so that the voltage across the test points TP203 and TP204 on the PAA circuit board (and/or TP303 and TP304 on the PAB circuit board) is 12mV ± 0.5mV in a no signal condition.

2. DC offset check

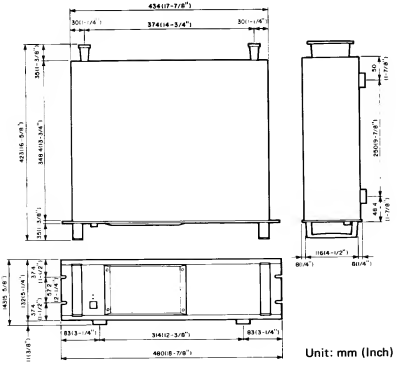
Check that the voltage across the SPEAKER terminals ⊕ and ⊖ is 0 ± 10mV in a no signal condition.



■BLOCK DIAGRAM

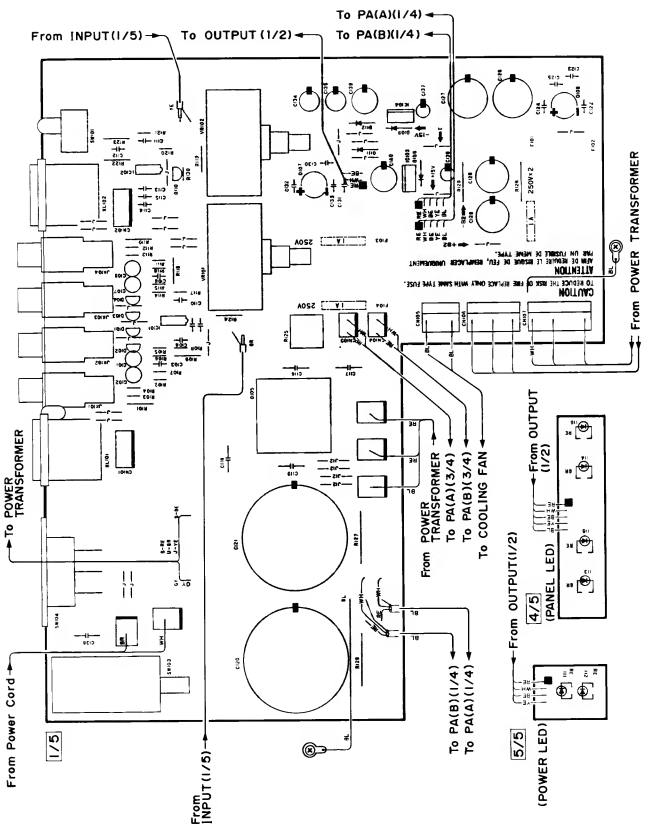


■DIMENSIONS

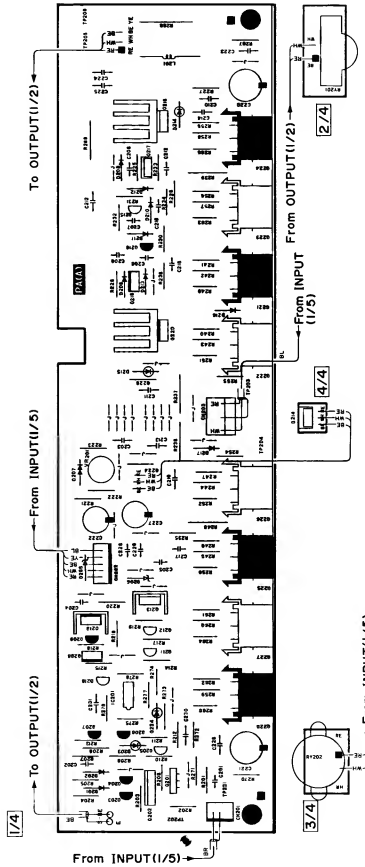


■CIRCUIT BOARDS (Parts side)

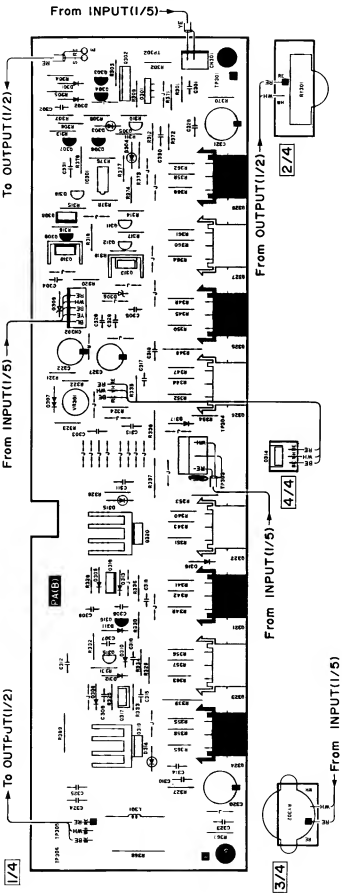
- INPUT CIRCUIT BOARD



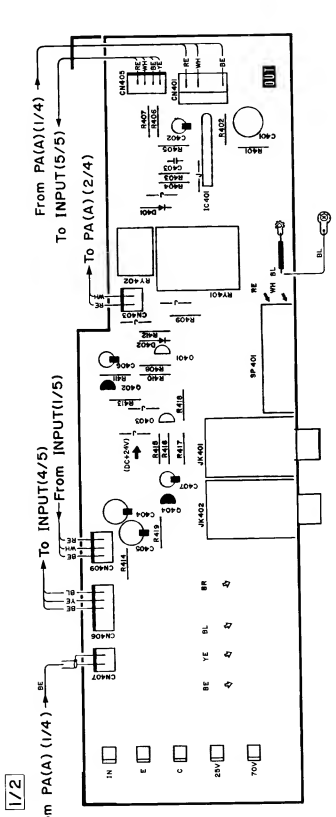
- PAA CIRCUIT BOARD



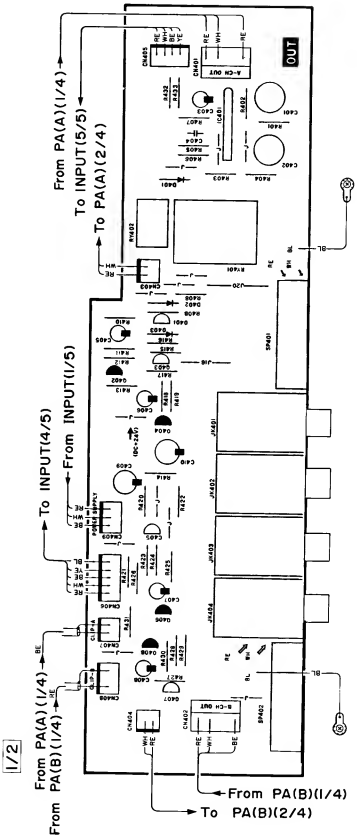
- PAB CIRCUIT BOARD (P2150 and P2250 only)



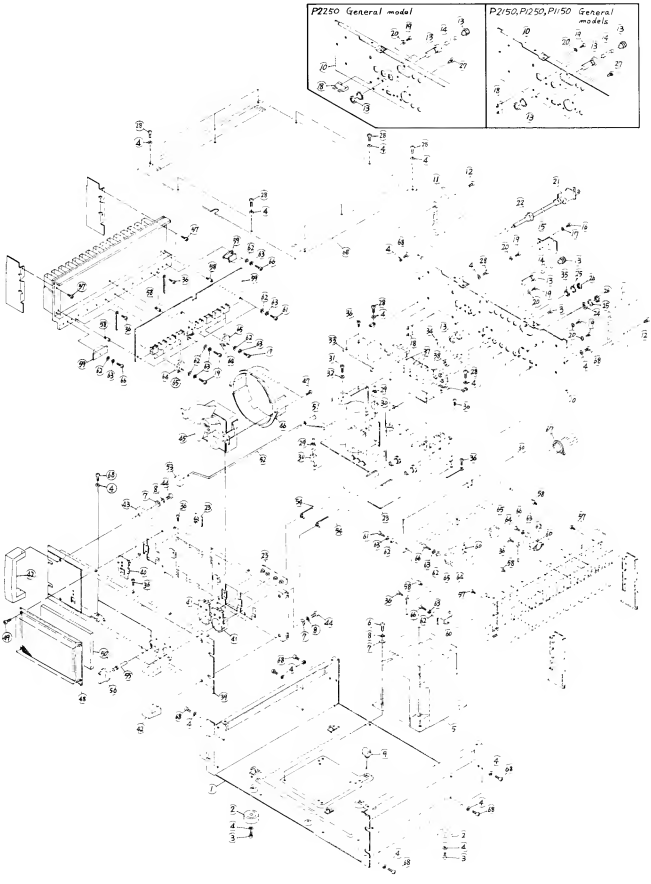
- OUTPUT CIRCUIT BOARD (Except P2250)



- OUTPUT CIRCUIT BOARD (P2250 only)



■EXPLODED VIEW



■PARTS LIST

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※	1	AA 83 29 00	Chassis		シャーシ	P1150/P1250			
※	〃	AA 83 28 90	〃		〃	P2150/P2250			
	2	CB 80 65 90	Foot		脚				
	3	Ei 34 01 06	Bind Head Tapping Screw	4×10 BI	バインドタッピングネジ	M4			
	4	EV 41 30 46	Toothed Lock Washer	A4S BI	歯付座金				
※	5	NB 83 18 70	Power Transformer		電源トランス	P1150		J	
※	〃	NB 83 19 10	〃		〃	〃		U,C	
※	〃	NB 83 19 50	〃		〃	〃		G	
※	〃	NB 83 18 50	〃		〃	P1250		J	
※	〃	NB 83 18 90	〃		〃	〃		U,C	
※	〃	NB 83 19 30	〃		〃	〃		G	
※	〃	NB 83 18 60	〃		〃	P2150		J	
※	〃	NB 83 19 00	〃		〃	〃		U,C	
※	〃	NB 83 19 40	〃		〃	〃		G	
※	〃	NB 83 18 90	〃		〃	P2250		J	
※	〃	NB 83 18 80	〃		〃	〃		U,C	
※	〃	NB 83 19 20	〃		〃	〃		G	
	6	ED 35 01 06	Bind Head Screw	5×10 BI	バインド小ネジ				
	7	EV 20 30 56	Flat Washer	5S BI	平座金				
	8	EV 30 35 06	Spring Washer	5S BI	バネ座金				
	9	CB 03 54 00	Holder,Circuit Board	D-85	シートホルダー				
※	10	AA 83 31 20	Rear Panel		リアパネル	P1150M		J	
※	〃	AA 83 31 30	〃		〃	〃		U,C	
※	〃	AA 83 31 40	〃		〃	〃		G	
※	〃	AA 83 30 00	〃		〃	P1250M		J	
※	〃	AA 83 30 10	〃		〃	〃		U,C	
※	〃	AA 83 30 20	〃		〃	〃		G	
※	〃	AA 83 30 60	〃		〃	P2150M		J	
※	〃	AA 83 30 70	〃		〃	〃		U,C	
※	〃	AA 83 30 80	〃		〃	〃		G	
※	〃	AA 83 29 40	〃		〃	P2250M		J	
※	〃	AA 83 29 50	〃		〃	〃		U,C	
※	〃	AA 83 29 60	〃		〃	〃		G	
	11	CB 80 86 50	Power Cord Holder		コードリール				
	12	Ei 34 01 26	Bind Head Tapping Screw	4×12 BI	バインドタッピングネジ				
	13	LB 20 29 40	Fuse Holder	15A 250V	ヒューズホルダー			J,U,C	
	〃	LB 20 05 90	〃	6.3A 250V	〃			G	
	14	KB 00 04 00	Fuse	5A 250V	ヒューズ	P1150		J	
	〃	KB 00 14 20	〃	5A 125V	〃	〃		U,C	
	〃	KB 00 07 60	〃	T3.15A 250V	〃	〃		G	
	〃	KB 00 13 00	〃	7A 250V	〃	P1250		J	
	〃	KB 00 15 20	〃	7A 125V	〃	〃		U,C	
	〃	KB 00 07 90	〃	T4.0A 250V	〃	〃		G	
	〃	KB 00 14 90	〃	10A 250V	〃	P2150		J	
	〃	KB 00 13 90	〃	10A 250V	〃	〃		U,C	
※	〃	KB 00 07 70	〃	T6.3A 250V	〃	〃		G	
	〃	KB 00 12 70	〃	15A 125V	〃	P2250		J	
	〃	KB 00 13 80	〃	15A 250V	〃	〃		U,C	
	〃	KB 00 07 90	〃	T4.0A 250V	〃	〃		G	
※	15	AA 83 32 50	Fuse Cover		ヒューズカバー	P2250M,C		J,C	
	16	Ei 33 00 86	Bind Head Tapping Screw	3×8 BI	バインドタッピングネジ	〃		J,C	
	17	EV 41 30 36	Toothed Lock Washer	A3S BI	歯付座金	〃		J,C	
	18	LA 00 07 60	Lug Terminal	2P	ラグ端子板			J	

※New Parts (新規部品)

	Ref. No.	Part No.	Description			部品名	Remarks	Common Model	Markets	ランク
	19	Ei 33 00 86	Bind Head Tapping Screw	3×8	BI	バインドタッピングネジ				
	20	EV 41 30 36	Toothed Lock Washer	A3S	BI	歯付座金				
	21	MG 00 06 10	Power Cord	15A 125V 2.1m		電源コード			J	
	〃	MG 00 05 30	〃	10A 125V 2.2m		〃			U,C	
	〃	MG 00 11 30	〃	6A 250V 3.5m		〃			G	
	22	CB 80 68 50	Cord Stopper	6N3-4		コードストッパー			J,U,C	
	〃	CB 03 28 40	〃	5N-4		〃			G	
※	23	NA 81 39 60	INPUT Circuit Board	≠91980		INPUT シート	P1150用		J	
※	〃	NA 81 39 70	〃	〃		〃	〃		U,C	
※	〃	NA 81 39 80	〃	〃		〃	〃		G	
※	〃	NA 81 40 80	〃	〃		〃	P1250用		J	
※	〃	NA 81 40 90	〃	〃		〃	〃		U,C	
※	〃	NA 81 41 00	〃	〃		〃	〃		G	
※	〃	NA 81 40 20	〃	〃		〃	P2150用		J	
※	〃	NA 81 40 30	〃	〃		〃	〃		U,C	
※	〃	NA 81 40 40	〃	〃		〃	〃		G	
※	〃	NA 81 41 40	〃	〃		〃	P2250用		J	
※	〃	NA 81 41 50	〃	〃		〃	〃		U,C	
※	〃	NA 81 41 60	〃	〃		〃	〃		G	
	24	EV 41 00 98	Toothed Lock Washer	A9S	BI	歯付座金	M4 P2250C			
	25	LX 20 00 10	Plain Washer	9S	Cr	特殊平座金				
	26	LX 20 00 60	Hexagonal Nut	9S	Ni	特殊六角ナット				
	27	CB 06 88 80	Plastic Rivet			プラスチックリベット			G	
	28	Ei 34 00 86	Bind Head Tapping Screw	4×8	BI	バインドタッピングネジ				
	29	LB 10 11 60	Receptacle			ポンティブロックレセプタクル	AMP			
	30	LB 10 11 80	Housing			ポンティブロックハウジング	〃			
	31	Ei 34 00 86	Bind Head Tapping Screw	4×8	BI	バインドタッピングネジ			U,C	
	32	EV 41 30 46	Toothed Lock Washer	A4S	BI	歯付座金			U,C	
※	33	NA 81 42 40	OUTPUT Circuit Board	≠92350		OUTPUT シート	P1150/P1250用		J,G	
※	〃	NA 81 46 00	〃	〃		〃	〃		U	
※	〃	NA 81 45 70	〃	〃		〃	〃		C	
※	〃	NA 81 45 30	〃	〃		〃	P2150用		J,G	
※	〃	NA 81 45 90	〃	〃		〃	〃		U	
※	〃	NA 81 45 60	〃	〃		〃	〃		C	
※	〃	NA 81 42 60	〃	≠91990		〃	P2250用		J,G	
※	〃	NA 81 45 80	〃	〃		〃	〃		U	
※	〃	NA 81 45 50	〃	〃		〃	〃		C	
※	34	CA 80 91 60	Insulating Washer			絶縁ワッシャー			C	
	35	CB 81 00 90	Insulating Nut			絶縁ナット	P2250用		J	
	36	Ei 33 00 66	Bind Head Tapping Screw	3×6	BI	バインドタッピングネジ				
	37	LB 20 15 40	Phone Jack			ホーンジャック	M4		C	
	38	EV 41 00 98	Toothed Lock Washer	A9S	BI	歯付座金			C	
※	39	BA 81 01 40	Front Panel			フロントパネル	P1150用			
※	〃	BA 81 01 00	〃			〃	P1250用			
※	〃	BA 81 01 20	〃			〃	P2150用			
※	〃	BA 81 00 80	〃			〃	P2250用			
※	40	CB 83 57 00	Switch Escutcheon			スイッチエスカッション				
※	41	CB 83 56 90	Knob Escutcheon			ツマミエスカッション				
	42	BA 80 19 50	Handle			アシプハンドル				
※	43	AA 83 29 20	Sub Panel			サブパネル				
	44	ED 35 01 26	Bind Head Screw	5×12	BI	バインド小ネジ				
※	45	JC 00 11 50	Cooling Fan			放熱ファン				
※	46	CB 83 58 70	Duct			ダクト				

※New Parts（新規部品）

	Ref No.	Part No.	Description			部品名	Remarks	Common Model	Markets	ランク
	47	Ei 33 01 26	Bind Head Tapping Screw	3×12	Bl	バインドタッピングネジ				
※	48	NB B3 15 70	Front Grill			フロントグリル				
※	49	EX B0 01 B0	Cap Screw	4×8	Bl	六角穴付ボルト				
※	50	CB B3 57 10	Filter			フィルター				
※	51	CB 83 61 70	Rod Holder			ロッドホルダー				
※	52	AA B3 28 40	Rod			ロッド				
	53	CB 81 23 B0	Push Button			プッシュボタン				
※	54	BA B1 00 60	Shaft			シャフト				
※	55	CB 83 56 60	Joint			ジョイント				
	56	CB 81 23 70	Attenuator Knob			アッテネーターツマミ				
	57	Ei 33 01 06	Bind Head Tapping Screw	3×10	Bl	バインドタッピングネジ				
	58	AA 07 75 90	Prop			支柱				
※	59	NA 81 42 00	PAA Circuit Board	≠92000		PAAシート	P1150/P2150			
※	〃	NA 81 42 20	〃	〃		〃	P1250/P2250			
※	60	NA 81 42 10	PAB Circuit Board	≠92010		PABシート	P2150			
※	〃	NA 81 42 30	〃	〃		〃	P2250			
	61	EA 03 00 66	Pan Head Screw	3×6	Ye	ナベ小ネジ				
	62	EV 20 00 36	Flat Washer	3S	Ye	平座金				
	63	EV 30 00 36	Spring Washer	3S	Ye	バネ座金				
	64	iL 00 06 80	Insulator			マイカベース				
※	65	iX 80 12 70	Transistor	2SA1186(O,Y)		トランジスタ	P1150/P2150			
※	〃	iX B0 12 90	〃	2SC2837(O,Y)		〃	〃			
※	〃	iX 80 12 80	〃	2SA1303(O,Y)		〃	P1250/P2250			
※	〃	iX 80 13 00	〃	2SC3284(O,Y)		〃	〃			
	66	EA 03 01 26	Pan Head Screw	3×12	Ye	ナベ小ネジ				
	67	CB 06 92 50	Binding Tie			インシュロックタイ				
※	68	AA B3 28 80	Top Cover			トップカバー	P1150/P1250			
※	〃	AA B3 28 70	〃			〃	P2150			
※	〃	BA B1 06 40	〃			〃	P2250 P2150			
		CB 83 56 TC	Knob			ツマミ	C			
		CB 83 56 1C	Cover, Knob			ノブカバー	C			
		BA 81 CC TC	Panel			パネル	P2250C			
		BA 81 C1 1C					P1250C			
		BA 81 C1 3C					P2150C			
		BA 81 C1 5C					P1150C			
		AA 83 36 3C	Rear Panel			リアパネル	P2250C		J	
		AA 83 29 8C							U, C	
		AA 83 29 9C							G	
		AA 83 36 5C					P1250C		J	
		AA 83 3C 4C							U	
		AA 83 3C 5C							G	
		AA 83 43 3C							C	
		AA 83 3E 7C					P2150C		J	
		AA 83 31 CC							U, C	
		AA 83 31 1C							G	
		AA 83 3E 4C					P1150C		J	
		AA 83 31 6C							U	
		AA 83 31 7C							G	
		AA 83 43 2C							C	
		NA 81 41 7C	P.C.B Assy, IN			INシート	P2250CC		J	
		NA 81 42 7C	OUT			OUTシート				
		NA 81 41 8C	IN			INシート			U, C	
		NA 81 41 9C	IN			INシート			G	

※New Parts (新規部品)

■CIRCUIT BOARDS & ELECTRICAL PARTS

	Ref No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		*NA 81 39 60*	*INPUT Circuit Board*	*≒91980*	INPUT シート	P1150 M/L		J	
※		*NA 81 39 70*	〃	〃	〃	〃		U,C	
※		*NA 81 39 80*	〃	〃	〃	〃		G	
※		*NA 81 40 20*	〃	〃	〃	P2150 M/L		J	
※		*NA 81 40 30*	〃	〃	〃	〃		U,C	
※		*NA 81 40 40*	〃	〃	〃	〃		G	
※		*NA 81 40 80*	〃	〃	〃	P1250 M/L		J	
※		*NA 81 40 90*	〃	〃	〃	〃		U,C	
※		*NA 81 41 00*	〃	〃	〃	〃		G	
※		*NA 81 41 40*	〃	〃	〃	P2250 M/L		J	
※		*NA 81 41 50*	〃	〃	〃	〃		U,C	
※		*NA 81 41 60*	〃	〃	〃	〃		G	
※※		UJ 15 71 00	Electrolytic Cap.	10μF 35V	ケミコン				
		UJ 15 81 00	〃	100μF 35V	〃				
		UJ 15 84 70	〃	470μF 35V	〃				
		UW 69 81 00	〃	100μF 100V	〃				
		UJ 29 84 70	〃	470μF 100V	〃				
※		FZ 00 70 10	〃	0.01F 80V	〃	P1250			
※		FZ 00 72 20	〃	0.01F 63V	〃	P1150			
※		FZ 00 67 90	〃	0.015F 63V	〃	P2150			
※		FZ 00 67 80	〃	0.015F 80V	〃	P2250			
		UK 13 72 20	Bipolar Electrolytic Cap.	22μF 16V	BPケミコン				
		HU 07 63 90	Metal Film Resistor	3.9kΩ 1/4W	金属皮膜抵抗				
		HU 07 71 20	〃	12kΩ 1/4W	〃				
		HU 07 71 60	〃	16kΩ 1/4W	〃				
		HU 07 73 00	〃	30kΩ 1/4W	〃				
		HU 07 73 90	〃	39kΩ 1/4W	〃	P2150/P2250			
		HU 07 75 10	〃	51kΩ 1/4W	〃				
		HL 31 51 00	Metal Oxide Film Resistor	100Ω 1W	酸化金属皮膜抵抗				
		HL 32 71 00	〃	10kΩ 2W	〃				
※		HZ 00 50 80	Wire Wound Resistor	680Ω 15W	セメント抵抗	P1150/P2150			
※		HZ 00 50 30	〃	1kΩ 15W	〃	P1250/P2250			
※		HY 00 19 20	Detent Variable Resistor	20kΩ	ディテント抵抗				
		iH 00 00 30	Diode	10D1	ダイオード				
		iF 00 51 20	〃	MC931	ダブルダイオード				
		iH 00 14 00	Bridge Rectifier	1G4B1	ブリッジダイオード				
		iH 00 03 90	〃	K8H-2504	〃				
		iF 00 17 20	LED	LN222RP	LED				
		iF 00 21 80	〃	LN322GP	〃				
※		iG 14 28 00	IC	NJM5532D	IC				
※		iG 14 95 00	〃	NJM5534D	〃	P2150/P2250			
		iG 06 39 00	〃	μPC7815H	〃				
		iG 07 75 00	〃	μPC7915H	〃				
		KA 40 12 30	Slide Switch		スライドスイッチ	Voltage Selector		G	
		KA 40 12 80	〃	SSP32204	〃	P2150 P2250 STEREO MONO			
※		KA 80 49 70	Power Switch		電源スイッチ			J	
※		KA 80 49 80	〃		〃			U,C	
※		KA 80 49 90	〃		〃			G	
		KB 00 03 30	Fuse	1A 250V	ヒューズ			J	
		KB 00 10 60	〃	1A 250V	〃			U,C	
		KB 00 06 70	〃	T630mA 250V	〃			G	
		LA 00 44 00	Terminal		ファストン端子				
		LB 20 15 30	Fuse Clip		ヒューズホルダーピン				

※New Parts (新規部品)

Ref. No	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	LB 30 20 70	Phone Jack	stereo	ホーンジャック	INPUT Hi Type			
※	LB 30 23 20	XLR Connector	XLB-3-31-PCV	キャノンソケット	〃			
	LB 91 80 30	Connector Base Pin	3P TE	コネクタベースピン	XH			
	LB 92 80 30	Connector	3P	ウェハーアッセンブリー				
	LB 40 08 90	〃	4P	〃				
	LB 50 04 70	〃	5P	〃				
	LB 01 40 30	Connector Housing	3P	コネクタハウジング				
	LB 00 90 50	〃	5P	〃	XH			
	LB 00 90 30	〃	3P	〃				
	LB 00 90 40	〃	4P	〃				
	LB 10 10 00	Contact Pin		コンタクトピン				
	LB 10 11 30	〃		〃	XH			
	LB 30 11 50	Connector	3P	Lコネクター				
※	LB 10 18 20	Contact Pin		コンタクトピン				
	Ei 33 00 66	Bind Head Tapping Screw	3×6 BI	バインドタッピングネジ				
	Ei 34 01 66	〃	4×16 BI	〃				
	Ei 34 00 86	〃	4×8 BI	〃				
	ED 24 05 02	Bind Head Screw	4×50 Cr	バインド小ネジ				
	EV 30 34 06	Spring Washer	4S BI	バネ座金				
	EV 41 30 46	Toothed Lock Washer	A4S BI	歯付座金				
				〃				
※	*NA 81 42 00*	*PAA Circuit Board*	*≒92000*	PAAシート	P1150/P2150			
※	*NA 81 42 20*	〃	〃	〃	P1250/P2250			
※	*NA 81 42 10*	*PAB Circuit Board*	*≒92010*	PABシート	P2150			
※	*NA 81 42 30*	〃	〃	〃	P2250			
	HV 35 34 70	Flame Proof Carbon Resistor	4.7Ω	不燃化カーボン抵抗				
	HV 35 42 20	〃	22Ω	〃				
	HV 35 44 70	〃	47Ω	〃				
	HV 35 51 00	〃	100Ω	〃				
	HV 35 51 20	〃	120Ω	〃				
	HV 35 52 20	〃	220Ω	〃				
	HV 35 52 70	〃	270Ω	〃				
	HV 35 53 30	〃	330Ω	〃				
	HV 35 55 60	〃	560Ω	〃				
※	HV 35 63 00	〃	3kΩ	〃				
	HU 57 54 30	Metal Film Resistor	430Ω 1/4W	金属皮膜抵抗	P1150/P2150			
	HU 57 68 20	〃	8.2kΩ 1/4W	〃				
	HU 57 71 80	〃	18kΩ 1/4W	〃				
	HU 57 53 30	〃	330Ω 1/4W	〃	P1250/P2250			
	HL 31 41 00	Metal Oxide Film Resistor	10Ω 1W	酸化金属皮膜抵抗				
	HL 31 48 20	〃	82Ω 1W	〃				
	HL 32 34 70	〃	4.7Ω 2W	〃				
	HZ 00 39 50	Wire Wound Resistor	0.33Ω 5W	金属板抵抗				
	HZ 00 48 20	〃	10Ω 5W	〃				
	UA 25 32 20	Mylar Film Cap.	0.0022μF 50V	マイラーコン				
	UA 25 51 00	〃	0.1μF 50V	〃				
	FZ 00 52 00	Metalized Mylar Cap.	0.1μF 100V	MMコン				
	FZ 00 52 10	〃	0.22μF 100V	〃				
	FZ 00 52 20	〃	0.48μF 100V	〃				
	FU 35 13 30	Mica Cap.	33pF 500V	FEマイカコン				
	FU 35 21 50	〃	150pF 500V	〃				
	FT 55 21 00	Polypropylene Cap.	100pF 50V	ポリプロコン				
	FT 55 24 70	〃	470pF 50V	〃				

※New Parts (新規部品)

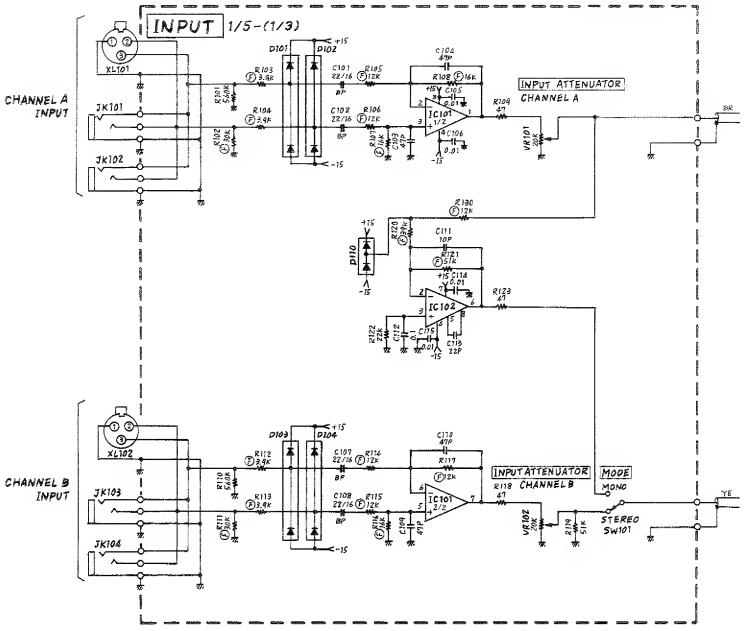
Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
	FT 55 25 60	Polypropylene Cap.	560pF 50V	ポリプロコン			
	FT 55 26 80	〃	680pF 50V	〃			
※	FT 55 31 50	〃	1500pF 50V	〃			
	UJ 28 B2 20	Electrolytic Cap.	220μF 80V	ケミコン			
	UJ 29 74 70	〃	47μF 100V	〃			
	iA 09 6B 00	Transistor	2SA968 (O,Y)	トランジスタ			
	iC 22 38 00	〃	2SC2238(O,Y)	〃			
※	iA 13 60 00	〃	2SA1360(O,Y)	〃			
※	iC 34 23 00	〃	2SC3423(O,Y)	〃			
	iA 09 70 00	〃	2SA970(GR,BL)	〃			
※	iA 10 15 30	〃	2SA1015(Y,GR)	〃			
	iC 18 15 30	〃	2SC1815 (GR)	〃			
	iC 22 91 00	〃	2SC2291(F,G,H)	〃			
	iC 22 40 00	〃	2SC2240(GR,BL)	〃			
※	iE 10 45 10	FET	2SK389 (BL,V)	FET			
	iF 00 06 70	Diode	1S2473	ダイオード			
	iF 00 14 00	〃	1SS82	〃			
	iH 00 03 20	〃	1S1888	〃			
	iF 00 51 20	〃	MC931	ダブルダイオード			
	iF 00 56 00	Zener Diode	RD5.6E82	ツェナーダイオード			
	iF 00 07 90	Varistor Diode	MV-12	バリスタ			
	iF 00 61 90	LED	LTZ-R17	LED			
	iG 10 70 00	IC	NJM072D	IC			
※	HT 41 03 70	Trimmer Potentiometer	8470Ω	ソリッドVR			
	GD 90 05 80	Coil	2.0μF	コイル			
	8A 01 18 70	Heat Sink		放熱板			
	KA 00 02 20	Thermal Reed Switch	OHD-85B	サーマルガード			
※	KA 90 70 00	Relay	INT60M15	リレー			
※	LB 60 77 70	Transistor Socket	M168Z	トランジスタソケット			
	LB 92 80 30	Connector	3P	ウェハーアッセンブリー			
	LB 91 80 30	Connector Base Pin	3P	コネクタベースピン	XH		
	LB 91 80 50	〃	5P	〃	〃		
※	LB 00 70 40	Connector Housing	4P	コネクタハウジング			
	LB 00 90 30	〃	3P	〃	XH		
	LB 00 90 20	〃	2P	〃	〃		
	LB 10 10 00	Contact Pin		コンタクトピン			
	LB 10 11 30	〃		〃	XH		
	Ei 33 00 B6	Bind Head Tapping Screw	3×8 BI	バインドタッピングネジ			
	EV 30 33 06	Spring Washer	3S BI	バネ座金			
	EV 20 30 36	Flat Washer	3S BI	平座金			
※	*NA 81 42 40*	*OUTPUT Circuit Board*	*≒92350*	OUTPUT シート	P1150/P1250用		J,G
※	*NA 81 46 00*	〃	〃	〃	〃		U
※	*NA 81 45 70*	〃	〃	〃	〃		C
※	*NA 81 45 30*	〃	〃	〃	P2150用		J,G
※	*NA 81 45 90*	〃	〃	〃	〃		U
※	*NA 81 45 60*	〃	〃	〃	〃		C
※	*NA 81 42 60*	〃	*≒91990*	〃	P2250用		J,G
※	*NA 81 45 80*	〃	〃	〃	〃		U
※	*NA 81 45 50*	〃	〃	〃	〃		C
※※	UJ 12 81 00	Electrolytic Cap.	100μF 10V	ケミコン			
	UW 55 74 70	〃	47μF 35V	〃			
	UW 56 61 00	〃	1μF 50V	〃			

※New Parts（新規部品）

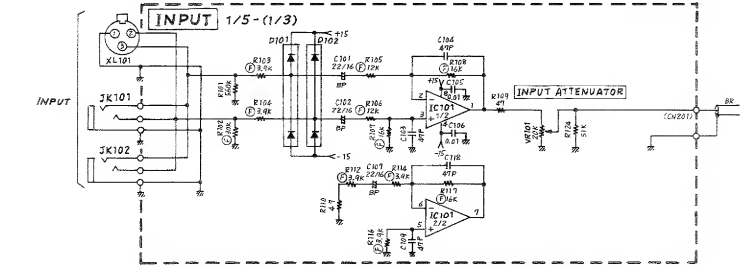
Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	UK 74 81 00	Bipolar Electrolytic Cap.	100μF 25V	B P ケミコン				
	iA 09 70 00	Transistor	2SA970(GR,BL)	トランジスタ				
	iC 22 40 00	〃	2SA2240(GR,BL)	〃				
	iF 00 06 70	Diode	1S2473	ダイオード				
	iH 00 00 30	〃	10D-1	〃				
	iG 03 48 00	IC	TA7317P	I C				
*	KC 00 20 10	Relay	MS24D4	リレー	P1150/P1250/P2150			
*	KC 00 19 80	〃	MZ-24	〃				
*	KC 00 19 70	〃	MSJ24	〃	P2250			
	LB 10 05 00	Phone Jack		ホーンジャック			J,U,G	
*	LA 00 55 10	Speaker Terminal	Left	スピーカーターミナル	P1250,1250,2150 Mix		J,G	
*	LA 00 55 30	〃	〃	〃	Mix C		U,C	
*	LA 00 55 20	〃	Right	〃	P2150/P2250 Mix		J,G	
*	LA 00 55 40	〃	〃	〃	〃 Mix C		U,C	
	LB 91 80 20	Connector Base Pin	2P	コネクタベースピン	XH			
	LB 91 80 30	〃	3P	〃	〃			
	LB 91 80 40	〃	4P	〃	〃			
	LB 91 80 50	〃	5P	〃	〃			
*	LB 40 08 50	Connector	4P	ウェハーアッセンブリー				
*	CA 80 91 60	Insulating Washer		絶縁ワッシャー	Mix Type		J,U,G	
	NA8141 1C	P.C.B Assy, IN		INシート	P1250C		J	
	NA8142 5C	CUT		CUT				
	NA8141 2C	IN		IN			U,C	
	NA8141 3C	IN		IN			G	
	NA8141 5C	IN		IN	P2150C		J	
	NA8145 4C	CUT		CUT				
	NA8146 6C	IN		IN			U,C	
	NA8140 7C	IN		IN			G	
	NA8139 9C	IN		IN	P1150C		J	
	NA8142 5C	CUT		CUT				
	NA8140 0C	IN		IN			U C	
	NA8140 1C	IN		IN			G	
	AA83 28 6C			BS 金具(大)	C			
	CB32 74 2C	Cover		カバー	P2250C		J,U	
	LA66 56 1C			スプット K103	P2250C		J,U	
	CB31 66 7C			記録プット	P1250C		J	
	CB31 66 9C			〃	P2250C		U,C,G	
	AA83 33 6C			ソケットスペーサ	P1250C, P1150C			
	EK66 23 7C		16×9×2.3	ファイバーワッシャー	P2250C, P1250Mix			
	AA83 34 3C			BS 金具(小)	Cap			
	HJ35 73 6C		3CKvib	カーボン振動子	C type			
	KA46 17 1C			スライドSW	C type			
	LA66 55 6C			カン通振動子	P2150C, P2250C			
	LB66 30 3C			オクソルソケット	C type			
	CA86 41 6C			記録ワッシャー	P1250C			
	LA66 54 7C			カンソケ振動子	P2250C, P2150C			
	LB16 05 6C			ジャック	P1250, P2150, P2250		J,U,G	
	LA66 55 3C			スピーカーターミナル	C type			
	LA66 55 4C			〃	C type			

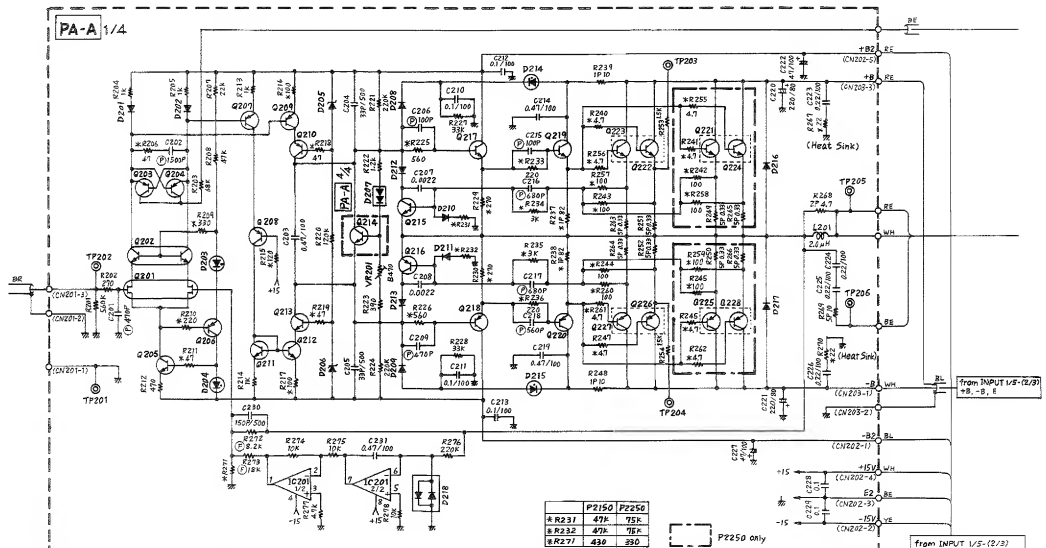
*New Parts (新規部品)

P2150, P2250

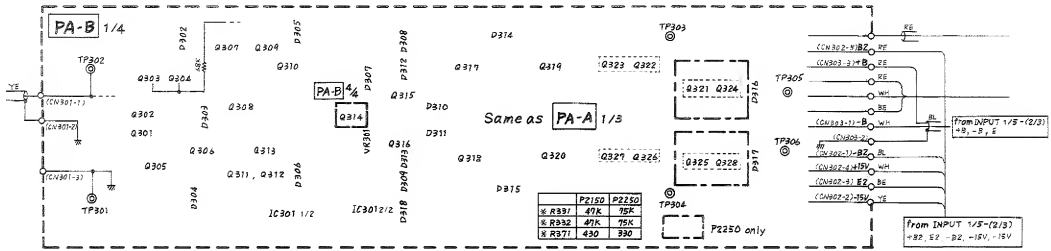


P1150, P1250

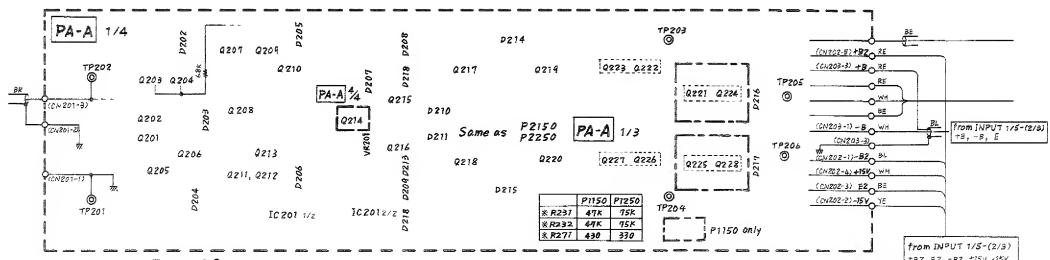




	P2150	P2250
*R231	47K	75K
*R232	47K	75K
*R271	430	330



Same as PA-A 1/3

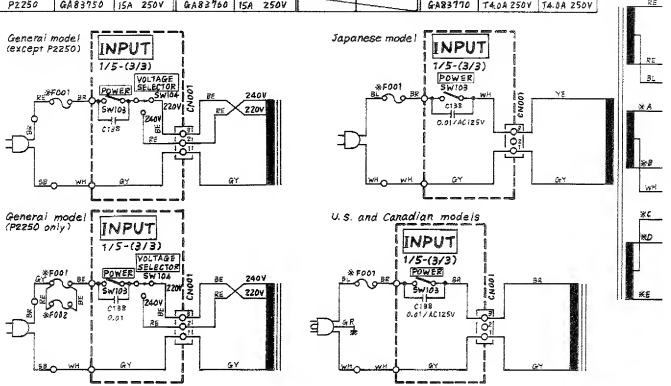


Same as P2150 P2250 PA-A 1/3

	※R125	※C120 ※C121	Wire Color				
			※A	※B	※C	※D	※E
P1150	15P 680	10000/63	YE	YE	OR	BE	BE
P1250	15P 1K	10000/80	YE	YE	OR	BE	BE
P2150	15P 680	15000/63	BE	BE	VI	OR	OR
P2250	15P 1K	15000/80	Pk	Pk	VI	OR	OR

	※F101 ~ 104
Japanese	1A 250V
U.S and Canadian	1A 250V
General	T630mA 250V

	Japanese		U.S. and Canadian		General (except P2250)		General (P2250 only)		
	Power Transformer	※F001	Power Transformer	※F001	Power Transformer	※F001	Power Transformer	※F001	※F002
P1150	GA83780	5A 250V	GA83790	5A 125V	GA83800	T3.15A 250V			
P1250	GA83810	7A 250V	GA83820	7A 125V	GA83830	T4.0A 250V			
P2150	GA83020	10A 250V	GA83730	10A 250V	GA83740	T6.3A 250V			
P2250	GA83750	15A 250V	GA83760	15A 250V			GA83770	T4.0A 250V	T4.0A 250V

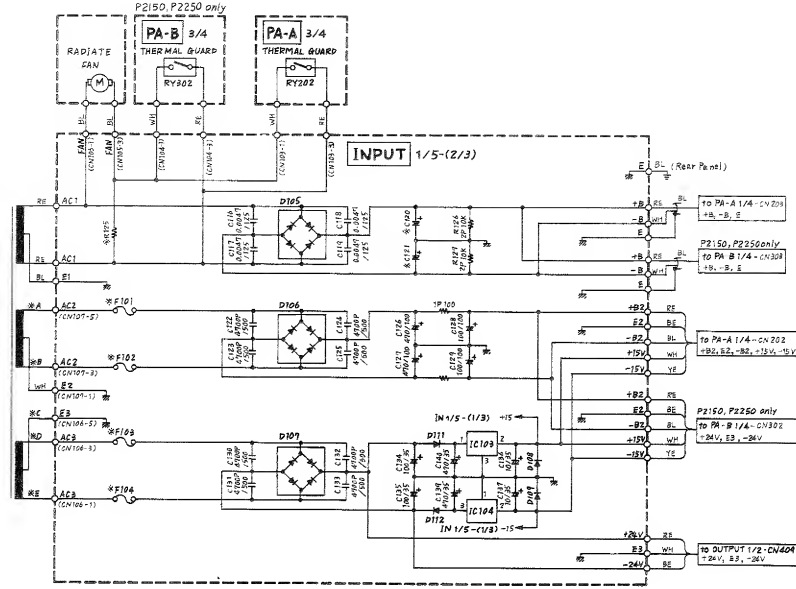


Notes)
INPUT Circuit Board

IC101	:NJM5532D	(1G142B00)
IC102	:NJM5534D	(1G145000)
IC103	:μPC7915H	(1G063900)
IC104	:μPC7915H	(1G077500)
D101~104,110	:MC931	
D105	:KBR-2504	
D106,107	:1G481	
D108,109, 111,112	:1G01	
LED111,112		
115,116	:LN222RP	
LED113,114	:LN322GP	
VR101,102	:20kΩ	

Notes)
PAA Circuit Board

IC201	:NJM072D (1G107000)
Q201	:2SK389(BL,V)
Q202	:2SC2291(P,G,H)
Q203,204,206, 207,215	:2SA970(GR,BL)
Q205,215	:2SC2240(GR,BL)
Q208,210,218	:2SA1350(O,Y)
Q209	:2SA1015(Y,GR)
Q211,212	:2SC1815(GR)
Q213,214,217	:2SC3423(O,Y)
Q219	:2SC2238(O,Y)
Q220	:2SA968(O,Y)
Q221~224 (P1150/P2150)	:2SC2837(O,Y)
(P1250/P2250)	:2SC3284(O,Y)
Q225~228 (P1150/P2150)	:2SA1186(O,Y)
(P1250/P2250)	:2SA1303(O,Y)
D201,202,212, 213	:1S2473
D203,204,214, 215	:LTZ-R17
D205,206	:RD5.6EM2
D207	:MV-12
D208-211	:1SS82
D216,217	:1S1988
D218	:MD331
VR201	:B470Ω
RY201	:OMD-85B
RY202	:1NT6DM15

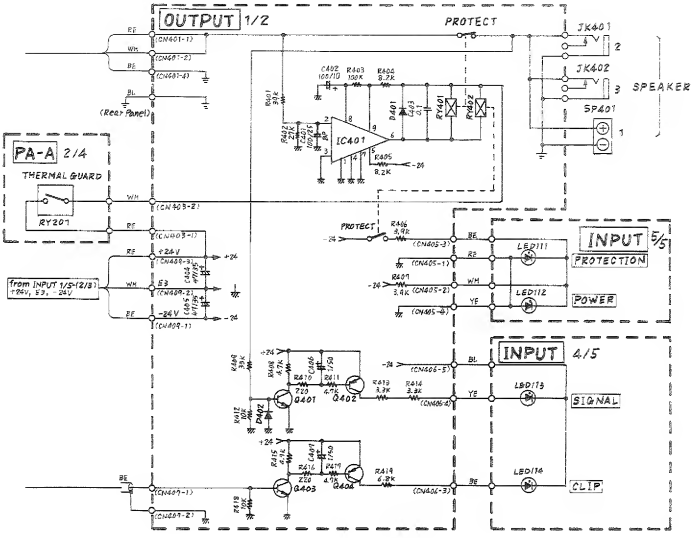


Notes)
PAB Circuit Board

IC301	:NJM072D (iG107000)
Q301	:2SK389(BL.V)
Q302	:2SC2291 (F,G,H)
Q303.304.306. 307.316	:2SA970(GR.BL)
Q305.315	:2SC2240(GR.BL)
Q308.310.318	:2SA1360(O.Y)
Q309	:2SA1015(Y,GR)
Q311.312	:2SC1815(GR)
Q313.314.317	:2SC3423(O.Y)
Q319	:2SC2238(O.Y)
Q320	:2SA968(O.Y)
Q321-324 (P2150)	:2SC2837(O.Y)
(P2250)	:2SC3284(O.Y)
Q325-328 (P2150)	:2SA1186(O.Y)
(P2250)	:2SA1303(O.Y)
D301.302.312. 313	:1S2473
D303.304.314. 315	:LTZ-R17
D305.306	:RD5.6E92
D307	:MV-12
D308-311	:1SS82
D316.317	:1S1888
D318	:MC931
VR301	:B470Ω
RY301	:OMD-B5B
RY302	:INTS0M1S

Notes)
OUTPUT Circuit Board

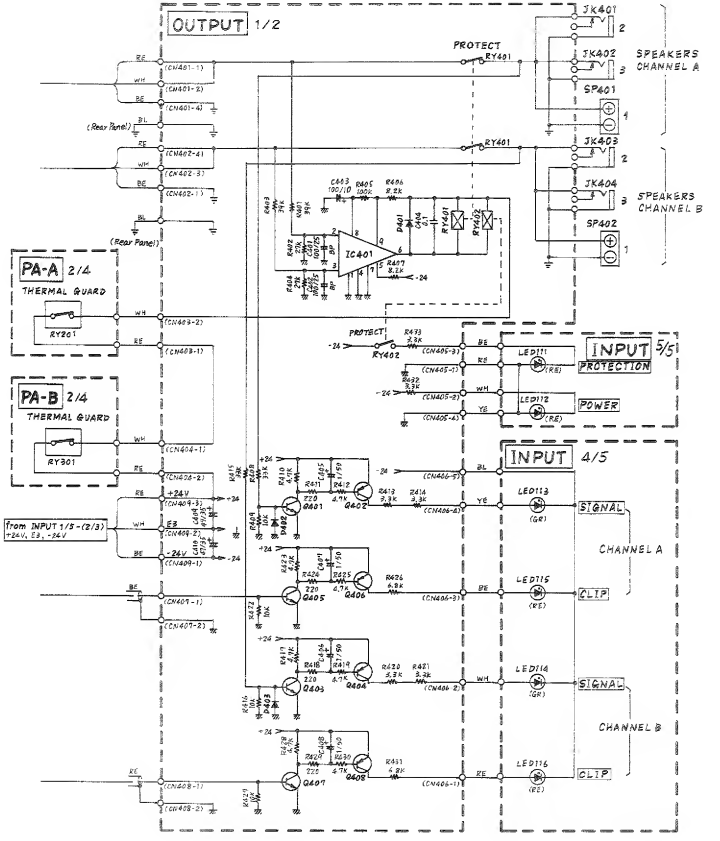
IC401	:TA7317P (iG034800)
Q401.403.405. 407	:2SC2240(GR.BL)
Q402.404.406. 408	:2SA970(GR.BL)
D401	:10D-1
D402.403	:1S2473
RY401 (P1150/P1250P2150)	:MS2404
(P2250)	:MSJ24
RY402	:MZ-24



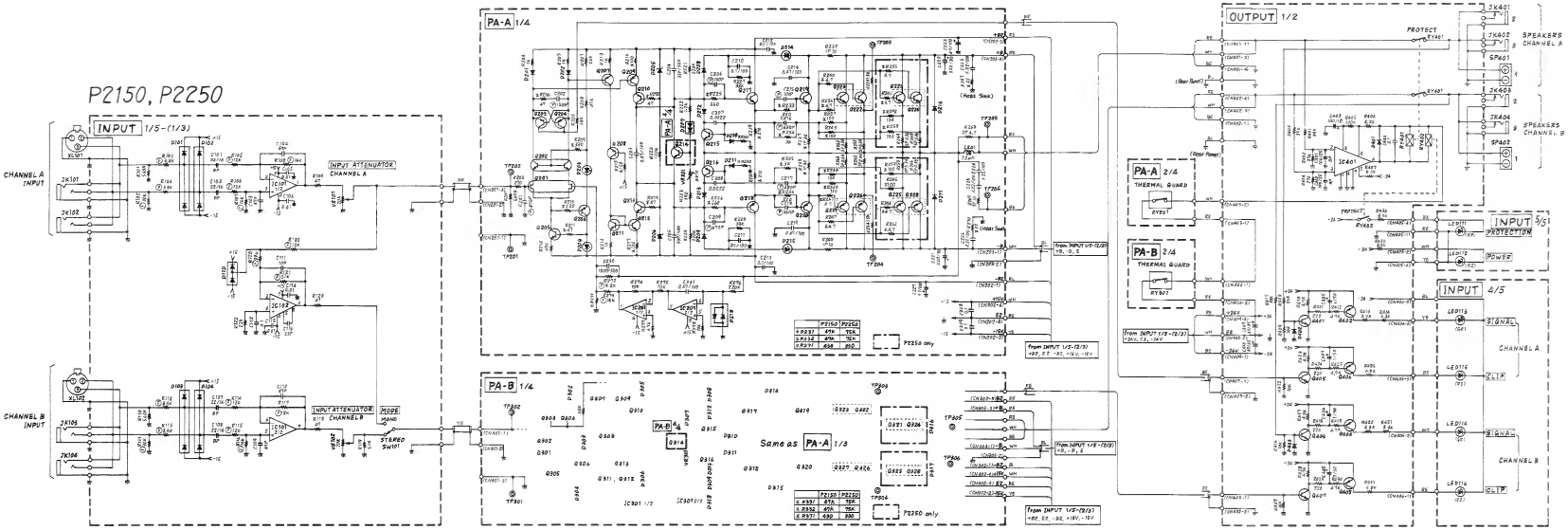
- WIRE COLOR ABBREVIATIONS

BE→Blue	RE→Red
BL→Black	SB→Sky Blue
BR→Brown	VI→Violet
GR→Green	WH→White
GY→Gray	YE→Yellow
OR→Orange	

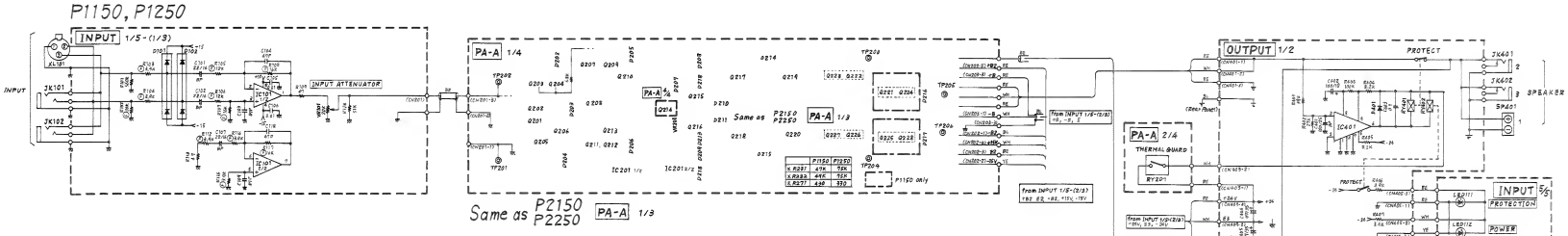
*Schematic diagram subjects to change without notice.


OUTPUT 1/2
PROTECT
RY401
JK401
JK402
SPEAKERS CHANNEL A
SP401
JK403
JK404
SPEAKERS CHANNEL B
SP402
(Rear Panel)
(CN401-1)
(CN401-2)
(CN401-4)
(CN402-4)
(CN402-3)
(CN402-1)
IC401
PA-A 2/4
THERMAL GUARD
RY201
(CN403-2)
(CN403-1)
PA-B 2/4
THERMAL GUARD
RY301
(CN404-1)
(CN404-2)
+24V
-24V
From INPUT 1/5~(2/3) +24V, Eg, -24V
(CN409-2)
(CN409-1)
(CN407-1)
(CN407-2)
(CN408-1)
(CN408-2)
INPUT 5/5
PROTECTION
POWER
(CN405-3)
(CN405-2)
(CN405-1)
LED111
LED112
INPUT 4/5
SIGNAL
CLIP
CHANNEL A
CHANNEL B
(CN406-5)
(CN406-4)
(CN406-3)
(CN406-2)
(CN406-1)
LED113
LED115
LED114
LED116
Q401
Q402
Q405
Q404
Q403
Q407
Q408

■SCHEMATIC DIAGRAM



Same as PA-A 1/3

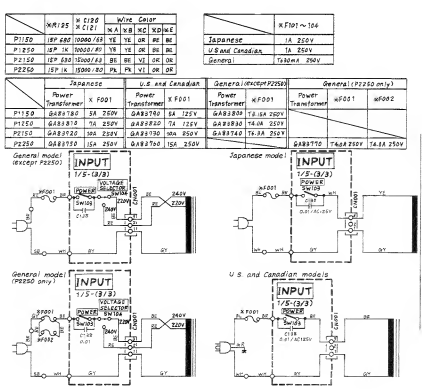


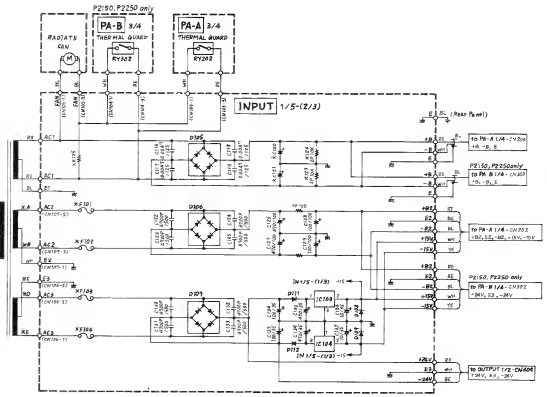
Same as P2150 P2250 PA-A 1/3

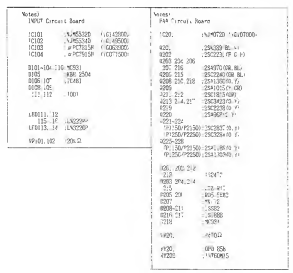
	W/R25	W C126 W C121	Wire Color				
			W-A	W-B	W-C	W-D	W-E
P1150	IEP 680	10000/63	YE	YE	OR	BE	BE
P1250	IEP 1K	10000/80	YE	YE	OR	BE	BL
P2150	IEP 680	15000/63	BE	BE	VI	OR	OR
P2250	IEP 1K	15000/80	PK	PK	VI	OR	OR

	W-F101~106
Japanese	1A 250V
U.S and Canadian, General	1A 125V
	T.5AmA 250V

	Japanese		U.S and Canadian		General (except P2250)		General (P2250 only)		
	Power Transformer	W F001	Power Transformer	W F001	Power Transformer	W F001	Power Transformer	W F001	W F002
P1150	GA93180	5A 250V	GA93780	5A 125V	GA93830	T8.5A 250V			
P1250	GA93810	7A 250V	GA93820	7A 125V	GA93940	T4.0A 250V			
P2150	GA93720	10A 250V	GA93730	10A 250V	GA93740	T6.3A 250V			
P2250	GA93950	15A 250V	GA93960	15A 250V			GA93770	T4.0A 250V	T4.0A 250V







- WIRE COLOR ABBREVIATIONS

BE→Blue	RE→Red
BL→Black	SB→Sky Blue
BR→Brown	VI→Violet
GR→Green	WH→White
GY→Gray	YE→Yellow
OR→Orange	

*Schematic diagram subjects to change without notice.